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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

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Date of mailing (day/month/year) 01 July 1999 (01.07.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 128923/JGS/RMT/-	
International application No. PCT/NO98/00226	
	International filing date (day/month/year) 29 July 1998 (29.07.98)

1. The following indications appeared on record concerning:

☒ the applicant

 ☒ the inventor

 ☐ the agent

 ☐ the common representative

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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person

 ☐ the name

 ☒ the address

 ☐ the nationality

 ☐ the residence

Name and Address BREIVIK, Øyvind Holmenveien 40 B N-0374 Oslo Norway	State of Nationality NO	State of Residence NO
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

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The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer S. De Michiel
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NOTIFICATION CONCERNING
AMENDMENTS OF THE CLAIMS(PCT Rule 62 and
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From the INTERNATIONAL BUREAU

To:

Swedish Patent Office
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Date of mailing (day/month/year)

25 June 1999 (25.06.99)

in its capacity as International Preliminary Examining Authority

International application No.

PCT/NO98/00226

International filing date (day/month/year)

29 July 1998 (29.07.98)

Applicant

TELEFONAKTIEBOLAGET LM ERICSSON et al

The International Bureau hereby informs the International Preliminary Examining Authority that no amendments under Article 19 have been received by the International Bureau (Administrative Instructions, Section 417).

The International Bureau of WIPO
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1211 Geneva 20, Switzerland

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

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Date of mailing (day/month/year) 25 June 1999 (25.06.99)	
International application No. PCT/NO98/00226	Applicant's or agent's file reference 128923/JGS/RMT/-
International filing date (day/month/year) 29 July 1998 (29.07.98)	Priority date (day/month/year) 17 November 1997 (17.11.97)
Applicant FJUK, Paul, Torkil et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
20 May 1999 (20.05.99)

☐ in a notice effecting later election filed with the International Bureau on:

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☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

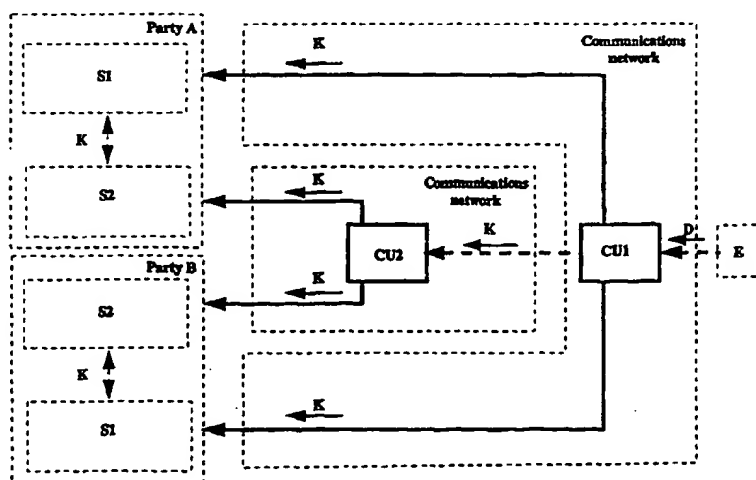
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(21) International Application Number: PCT/NO98/00226 (22) International Filing Date: 29 July 1998 (29.07.98) (30) Priority Data: 975259 17 November 1997 (17.11.97) NO (71) Applicant (for all designated States except US): TELEFONAK- TIEBOLAGET LM ERICSSON [SE/SE]; S-126 25 Stock- holm (SE). (72) Inventors; and (75) Inventors/Applicants (for US only): FJUK, Paul, Torkil [NO/NO]; Hellaveien 79, N-2013 Skjetten (NO). BREIVIK, Øyvind [NO/NO]; Drammensveien 50 C, N-0271 Oslo (NO). (74) Agent: OSLO PATENTKONTOR AS; Postboks 7007 M, N-0306 Oslo (NO).		(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>	

(54) Title: ARRANGEMENT IN ONE OR MORE COMMUNICATION NETWORKS, WHEREIN COMMUNICATION CHANNELS ARE ESTABLISHED BETWEEN TWO OR MORE PARTIES



The Components of the Invention

(57) Abstract

The present invention relates to an arrangement in one or more communication networks, wherein communication channels are established between two or more parties connected to said communication network(s), said arrangement comprising communication services offering access to communication channels to interconnected parties, and for the purpose of improving such an arrangement and alleviate the problems encountered with computer telephony integration solutions, it is according to the present invention suggested that said arrangement further comprises control means for automatic establishment of related communication channels with support for automatic correlation of the information sent on said established communication channels.

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**ARRANGEMENT IN ONE OR MORE COMMUNICATION NETWORKS, WHEREIN
COMMUNICATION CHANNELS ARE ESTABLISHED BETWEEN TWO OR MORE
PARTIES**

5

Field of the invention

The present invention relates to an arrangement in one or
more communication networks, wherein communication
10 channels are established between two or more parties
connected to said communication network(s), said
arrangement comprising communication services offering
access to communication channels to interconnected
parties.

15

Technical background

The Problem Area

Communication services offer access to communication
20 channels to interconnected parties. Interconnectivity is
realised by communication networks. Examples of
communication services are: voice communication services,
video conference services, and file transfer services.
Examples of communication networks are: Public Switched
25 Telephone Network (PSTN), Public Land Mobile Network
(PLMN), Integrated Services Digital Network (ISDN), and
the Internet.

30 The present invention provides a system for *automatic*
establishment of related communication channels with
support for *automatic correlation* of the information sent
on the established communication channels.

35

More specifically, the present invention provides a system for automatic creation of a group of communication channels between two or more parties connected to communications networks. The creation of a group of communication channels is initiated by external events. An identical correlation key, which may be used to identify a group, is sent on each of the communication channels belonging to a particular group. The key facilitates automatic correlation of information sent on the related communication channels at the terminal equipment of the parties involved.

Known Solutions and Problems with these

The problems that the present invention addresses are:

1. establishment of related communication channels; and
2. correlation of information sent on related communication channels.

The present invention provides automation of (1) and facilitates automation of (2), in a network centric fashion.

There are known solutions to (1) and (2). The known solutions pertain to the technical field of Computer Telephony Integration (CTI).

CTI

CTI combines computer technology and telephone technology. CTI may be used for call processing and for voice processing. Typically, CTI is used in Call Centre applications.

CTI call processing enables a computer to work alongside a human agent, helping the agent to handle calls more efficiently (eg., route customer incoming calls to an appropriate operator based on information in a customer database). With CTI voice processing, the computer takes the place of a human telephone operator and provides a gateway between the caller and the business information stored on the computer systems (eg., automated call answering).

10

CTI solutions

(1) A CTI system may automatically establish a telephony communication channel by initiating a call request to the telephone network.

15

(2) A CTI system may automatically correlate an incoming call (by extracting the Caller ID information element of signalling no. 7) with information stored in a customer database.

20

CTI problems

CTI is very much dependant on the control functions provided to it by the telephone network. For instance, CTI relies heavily on the Caller ID information element of signalling system no. 7 to correlate incoming calls with information in customer databases. CTI cannot control the information sent from the telephone network, it can merely inspect it. Since it cannot control such information it is confined and limited by restrictions imposed by the telephone network.

30

CTI is terminal centric in the sense that the logic and functionality is provided solely by additional terminal equipment (PABXs and computers) interacting with the

telephone network. Automatic establishment of calls is initiated by additional terminal equipment requesting a service from the telephone network. CTI provides a means of adding value to the services offered by the telephone network. However, the revenue margins for this added value is out of reach for the traditional network operator since the means is provided by customer terminal CTI equipment - not by the network itself.

10

Further prior art

From WO 9638018 (LM Ericsson) there is known a method using an intelligent network that is invoked during call connection to provide connections and other information. The intelligent network can be connected to by ISDN or PSTN based telephones or via gateways to data networks, e.g. the Internet. The intention of this prior art is mobility within the data network in connection with conventional PSTN services. The internet may be used in order to locate the user, which may be a mobile unit in the data network. However, the prior art is silent about any correlation between sessions and is also silent about using Internet for setting up sessions, and still more silent about transferring a correlation key for facilitating such set-up.

30

Objects of the invention

An object of the present invention is to provide a system for automatic establishment of related communication channels.

Another object of the present invention is to provide support for such automatic correlation of the information sent on the established communication channels.

Still another object of the present invention is to provide a system for automatic creation of a group of communication channels between two or more parties
5 connected to communications networks.

Yet another object of the present invention is in connection with such an automatic correlation of sessions to use a correlation key for further optimizing said
10 system.

Summary of the invention

15 These objects are achieved in a system as stated in the preamble, which according to the present invention is characterized in that said arrangement further comprises control means for automatic establishment of related communication channels with support for automatic
20 correlation of the information sent on said established communication channels.

More specifically, it can be said that said control means (CU1) communicate with an external system (E) which in turn
25 comprises event related data, which data can either be called upon by the control means (CU1) or be transferred thereto when certain events occur, so as to initiate the creation of one or more groups of communication channels, substantially on the basis of external events.

30 Consequently, the present invention solves the problems en faced with the previously discussed CTI problems, and generally improves the utilization of communication networks.

35 By providing a system that enables complete control over correlation information coupled with automatic

establishment of communication channels in a network centric fashion, the restrictions imposed by the telephone network are overcome and the traditional network operator may offer a set of new value added services. In addition, the present invention provides a mechanism for initiating such services by external events.

Further features and advantages of the present invention will appear from the following description taken in connection with the enclosed drawings, as well as from the enclosed patent claims.

15 Brief discussion of the drawings

Fig. 1 is a schematic drawing illustrating the principle of an arrangement according to the present invention, comprising the main components thereof.

20

Fig. 2 is a schematic drawing illustrating an example of application according to the present invention, especially in connection with an internet enabled call centre.

25 Fig. 3 is a schematic drawing illustrating a further example of an application according to the present invention, especially related to stock watching.

30 Detailed description of embodiments

In Fig. 1 there is illustrated schematically the general principle of an arrangement according to the present invention, said Figure illustrating an example of components necessary for implementing an embodiment thereof.

The invention presents a solution that may be based on two logical interacting control units, Control Unit 1 (CU1) and Control Unit 2 (CU2), respectively. The two control units, with their interaction, form a system that enables
5 automatic establishment of communication channels with support for automatic correlation of information sent on the communication channels at the terminal equipment of the parties involved. An example of communication channels that may have correlation support by the present invention
10 is telephony calls and information stored on the Internet.

CU1 and CU2 are located within communications networks (eg. a PSTN or the Internet) and are capable of establishing communication channels (S1, S2) between two
15 or more parties connected to the communication networks. CU1 and CU2 may both act as parties in communication sessions. CU1 and CU2 may be located within the same communications network or they may each be located within different communications networks. CU1 and CU2 are logical
20 units in the sense that their physical implementation may coexist, and coexist with other components. A communication path interconnects CU1 and CU2.

E is an external system that contains data or can produce
25 data, or both, that is used as input to CU1. A communication path interconnects CU1 and E. Input to CU1 is denoted D. D must consist of control information that can be used by CU1, and may be used by CU2, to establish sessions. D may also contain user information that may be
30 transferred by CU1 or CU2 , or both, to one or more parties involved in the channels to be established.

CU1 may request and initiate a transfer of input (D) from E or E may initiate a transfer of input (D) to CU1. Input
35 (D) to CU1 is initiated when certain events occur. Examples of events are: a date, the stock exchange reaches a certain threshold, a temperature measurement reaches a

certain limit, an Internet user has filled in a registration form and initiated a transfer of information to a server (which may be E), and so on. If CU1 is used to initiate a transfer of input (D), then CU1 contains logic
5 for the monitoring of events of interest that trigger a transfer of input (D).

When CU1 receives input (D) from E, CU1 generates a key (K). The key (K) facilitates automatic correlation of
10 information sent on the communication channels (S1 and S2) at the terminal equipment of the parties involved. The correlation key (K) may be generated based upon the information contained in D (e.g. the correlation key generated may be based upon the phone number of Party A if
15 this were contained in D), or it may be based upon information contained in CU1, or both.

When the key (K) has been generated, CU1 may establish one or more communication channels (S1). The communication
20 channels (S1) may be established based upon control information contained in D (e.g. the telephone numbers of two parties if these were contained in D, or the e-mail address of one party if this were contained in D) or it may be based upon information contained in CU1 (e.g. a
25 stored e-mail or FTP address), or both. A communication session involves two or more parties (e.g. the placing and receiving parties in a traditional telephone call/session). CU1 may itself act as one of the parties in a session (S1) (eg., as the sending party of an e-mail
30 message in an internet session, or as the placing party with stored voice messages in a telephony call/session).

The key (K) is transferred from CU1 onto the communication channels (S1) that have been established. If CU1 acts as a
35 party in a session, then the user information (from D) and other information produced or contained in CU1 may be

distributed from CU1 onto one or more of the communication channels (S1).

Next, the key (K) is transferred from CU1 to CU2.

- 5 CU1 may at any time transfer additional control information to CU2. Control information from CU1 to CU2 may contain information from D (eg., control information with for instance telephone numbers, or user information).
- 10 When CU2 receives a key (K) it may establish one or more communication channels (S2). The communication channel (S2) may be established based upon the key (K) or based upon information contained in CU2. A communication session involves two or more parties. CU2 may itself act as one of
- 15 the parties in a session (S2). The key (K) is transferred from CU2 onto the communication channel (S2) that have been established.

- CU1 and CU2 may now have established a number of
- 20 communication channels, each session involving two or more parties. Every party involved has received the key (K) on the session or sessions that they participate in. If a party is involved in two or more of the established sessions, then the party may now use the key (K) to
 - 25 correlate the particular sessions.

Restrictions

- For correlation of sessions to take place at a party, the party must have received the key (K) on all the
- 30 communication channels belonging to the group. If the transfer of (K) on a session to a destined party is delayed, perhaps due to network latency, so that (K) is not readily available on all sessions, then correlation of these sessions cannot take place. The problem may be
 - 35 solved by CU1 not sending the correlation key before S1 has been established.

Advantages

The present invention enables a network operator to offer new value added services that augments the functions
5 provided by CTI equipment.

Broadening

10 The following sections exemplify two possible applications of the invention.

Example Application: Internet enabled call centre

The present invention can be used to construct an Internet
15 enabled call centre application, as illustrated in Figure 2.

Products and services may be ordered using the Internet. A typical procedure is the following: An Internet user, and
20 potential customer, fills in a registration and purchasing form specifying name, address, telephone number and similar personalia, as well as information regarding the product or service of interest. Such forms are often found under the homepage of businesses offering transactions on
25 the Internet. Once the Internet user has filled in the required form, the user often has to click on a web button to send the information off to the sales department of the business in question. The sales department may thereafter ship the requested product or service out to the customer
30 based upon the information that the Internet user has specified.

Products and services may be ordered using the PSTN. A typical procedure is the following: A PSTN user, and
35 potential customer, initiates a phone call to the business of interest. The business may subscribe to certain IN services that route the call to, for instance, the sales

department that is open for business at the particular time of day. Furthermore, that sales department may subscribe to certain IN services that enable the PSTN user to navigate his call to an applicable sales representative via a telephone menu. Once the PSTN user reaches a sales representative at the other end, the PSTN user may specify name, address, telephone number and similar personalia, as well as information regarding the product or service of interest. The sales department may thereafter ship the requested product or service out to the customer based upon the information that the PSTN user has specified.

The present invention may be used to enable a combination of the two above scenarios by correlating Internet sessions with PSTN sessions.

(0) A person (Party A) may be interested in purchasing a product or service of some category. The person may log onto the Internet from a computer and search for businesses that advertise for such products or services by means of homepages on the Internet. One such business may make use of the present invention. If the person (Party A) finds the offerings from this business of interest he may, for instance, fill out a registration and purchasing form specifying his name, address, telephone number and similar personalia, as well as information regarding the product or service of interest. The form may be found on the system (E) that handles the homepage of the business in question. This system may be a web server. Once the person (Party A) has filled in the required form, the person (Party A) may, for instance, click (an external event) on a web button in order to (using the present invention) establish a call with the sales department and to send the information off to the sales department. The information that the person has filled in may be augmented (by the external system E) with, for instance, the telephone number of the sales department (which is still using

intelligent routing) and with the address of an FTP-server of the sales department.

(1) Once this information (D) has been assembled the
5 system (E) may initiate a transfer of the information to the first control unit (CU1). In this scenario, CU1 is located within the Internet.

(2) CU1 first generates a correlation key (K). The
correlation key generated is the phone number of Party A
10 (which is contained in D).

(3) CU1 may then establish a session (S1) with Party B, using the FTP-address of the sales department contained in D. In this scenario one session (S1) is established by CU1
15 and the session pertain to Internet. CU1 acts as the sending party in this session. The correlation key (K) and D are transferred to the FTP-server of Party B on S1.

(4) The correlation key (K) is sent to the second control
20 unit (CU2). In this scenario, CU2 is located within the PSTN. CU1 sends control information (containing the phone number of Party A and the phone number of Party B) prior to sending K.

(5) CU2 may then establish one session (S2) between Party B and Party A. In this scenario this session (S2) is a telephone call between Party B and Party A.. CU2 does not act as a party in this session.

(6) The correlation key (K) is transferred on S2 using,
30 for instance, the information elements calling party ID of signalling no. 7.

(7) Now the form information that the Internet user
35 (Party A) has registered on the homepage of the business has been transferred to the FTP-server of Party B. The correlation key (K) has also been transferred along with

the form information. A call has been established between the Internet user (Party A) and the sales department (Party B). The correlation key (K) has been transferred on S2. The sales department can now automatically fetch the form information from the FTP-server using the correlation key.

Example Application: StockWatch

The present invention can be used to construct a StockWatch application, as illustrated in Drawing 3. The scenario depicted involves two parties: the holder of a certain stock (Party A) and a stockbroker (Party B).

(0) An external system (E) continuously monitors the stockexchange index; and

(1) (CU1) continuously fetches updated stockvalues (D) of interest from (E). In this scenario (E) and (CU1) are located within the Internet; and (E) interacts with a stockexchange computer.

(2) (CU1) contains logic for monitoring certain stockindex events. For instance, (CU1) may monitor the value of the stock that Party A holds. In the event that the value of the stock plunges to a certain threshold, (CU1) first generates a correlation key (K). The correlation key (K) consists of the phone number of Party A and the phone number of Party B.

(3) Next, (CU1) establishes two channels (S1), one to Party A and one to party B, and transfers the current stock value as well as the correlation key (K) to both parties. (CU1) acts as the sender of information on S1 to Party A and on S1 to Party B. The sessions over (S1) could for instance be a transfer of information by e-mail or a file transfer by FTP.

(4) CU1 transfers the correlation key (K) to CU2.

(5) CU2 establishes one channel (S2) between Party A and Party B. The channel pertains to a telephone call between
5 Party A and Party B. (CU2 could for instance be a Service Control Point (SCP) in an Intelligent Network (IN) interacting with a Service Switching Point (SSP)).

(6) CU2 transfers the correlation key (K) during the
10 establishment phase of S2 (eg. manipulating the calling party ID of signalling system no. 7).

(7) Now both the holder and the broker of the stock have recieved the current stock value (on S1); and a telephone
15 call (S2) has been set up between the two parties. The correlation key (K) has been sent on both S1 and S2, to both parties. Using a CTI system, the current stock value could automatically be retrieved and displayed on the computer screen when the holder and broker pick up their
20 telephones.

P a t e n t c l a i m s

1. Arrangement in one or more communication networks,
wherein communication channels are established between two
5 or more parties connected to said communication
network(s), said arrangement comprising communication
services offering access to communication channels to
interconnected parties,
c h a r a c t e r i z e d i n that said arrangement
10 further comprises control means for automatic
establishment of related communication channels with
support for automatic correlation of the information sent
on said established communication channels.
- 15 2. Arrangement as claimed in claim 1,
c h a r a c t e r i z e d i n that said control means
(CU1) communicate with an external system (E) which in
turn comprises event related data, which data can either
be called upon by the control means (CU1) or be
20 transferred thereto when certain events occur, so as to
initiate the creation of one or more groups of
communication channels, substantially on the basis of
external events.
- 25 3. Arrangement as claimed in claim 1 or 2,
c h a r a c t e r i z e d i n that said events may
comprise a date, stock exchange thresholds, temperature
measurements, registration forms with parameters for
transfer of information, or similar events with
30 appropriate monitoring thereof.
4. Arrangement as claimed in any of the claims 1-3,
c h a r a c t e r i z e d i n that examples of
services may comprise: voice communication services, etc.
35 and that examples of communication networks are: Public
Switched Telephone Network (PSTN), Public Land Mobile

Network (PLMN), Integrated Services Digital Network (ISDN), as well as Internet, etc.

5. Arrangement as claimed in any of the preceding
5 claims,
c h a r a c t e r i z e d i n that said control means
comprises two logical interacting control units (CU1, CU2)
located within one or more of said communication
network(s).
- 10 6. Arrangement as claimed in any of the preceding
claims,
c h a r a c t e r i z e d i n that said control units
(CU1, CU2) are interconnected by a communication path.
- 15 7. Arrangement as claimed in any of the preceding
claims,
c h a r a c t e r i z e d i n that one of said
control units (CU1) is connected to said external system
20 (E) preferably by a communication path (D) through which
said one control unit (CU1) receives control information
to be used by said one control unit (CU1).
8. Arrangement as claimed in claim 7,
25 c h a r a c t e r i z e d i n that said control
information (D) which is transferred from the external
system (E) to said one control unit (CU1) can also be used
by said second control unit (CU2) for establishing
sessions.
- 30 9. Arrangement as claimed in claim 7 or 8,
c h a r a c t e r i z e d i n that the information
(D) transferred from said external system (E) to said two
control units (CU1, CU2) may be transferred respectively
35 therefrom to one or more parties involved in the channels
to be established.

10. Arrangement as claimed in any of the preceding claims,

characterized in that one of said control units (CU1) is adapted to either initiate a transfer of input (D) from said external system (E) and is also adapted to receive an input (D) from said external system (E) upon initiation from the latter, especially when certain events occur.

11. Arrangement as claimed in claim 10,

characterized in that said one control unit (CU1) comprises logic means for monitoring events of interest, said logic means being adapted for triggering a transfer of input (D) from said external system (E) when any parameter associated with any event of interest so demands.

12. Arrangement as claimed in claim 11,

characterized in that said one control unit (CU1) comprises a key (K) generating means, the key (K) thereof being adapted to facilitate automatic correlation of information sent on said communication channels (S1 and S2), specifically at the terminal equipment of the parties involved.

13. Arrangement as claimed in claim 12,

characterized in that said correlation key (K) is generated based upon the information contained in the data (D) transferred from said external system (E), for example based on:

- a) the telephone number of one of the parties (A),
- b) further information contained in said control unit (CU1),
- c) or both.

14. Arrangement as claimed in any of the preceding claims,

c h a r a c t e r i z e d i n that when a key (K) has been generated in said control means (CU1), then said control means (CU1) will establish one or more communication channels (S1), more particularly based upon
5 information contained as control information in said data (D) received from said external system (E), possibly based upon information contained in said one control unit (CU1).

15. Arrangement as claimed in any of the preceding
10 claims,
c h a r a c t e r i z e d i n that said control means (CU1) is adapted to act as one of the parties in a session (S1), or as the placing party, for example with stored voice messages in a telephone call/session.

15
16. Arrangement as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that said control means (CU1) is adapted to transfer the relevant key (K) on to
20 established communication channels (S1), and if said control means (CU1) acts as a party in a session then further information, especially user information obtained from said external system (E) or contained in the control means (CU1) itself may be distributed therefrom on to one
25 or more communication channels (S1).

17. Arrangement as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that said control means
30 (CU1) is adapted to transfer the relevant key (K) as well as additional control information to any further control means (CU2), for thereby allowing said further control means (CU2) to establish one or more further communication channels (S2) based upon said key (K) or based upon
35 information contained in said further control means (CU2).

18. Arrangement as claimed in claim 17,

c h a r a c t e r i z e d i n that said further control means (CU2) is adapted to transfer the relevant key (K) on to established communication channels (S2).

- 5 19. Arrangement as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that if one party is involved in two or more of the established sessions, then the key (K) received by said party may be used to
- 10 correlate said particular session or sessions, provided said party has received said key (K) on all communication channels belonging to the associated group of communication channels or group of sessions.

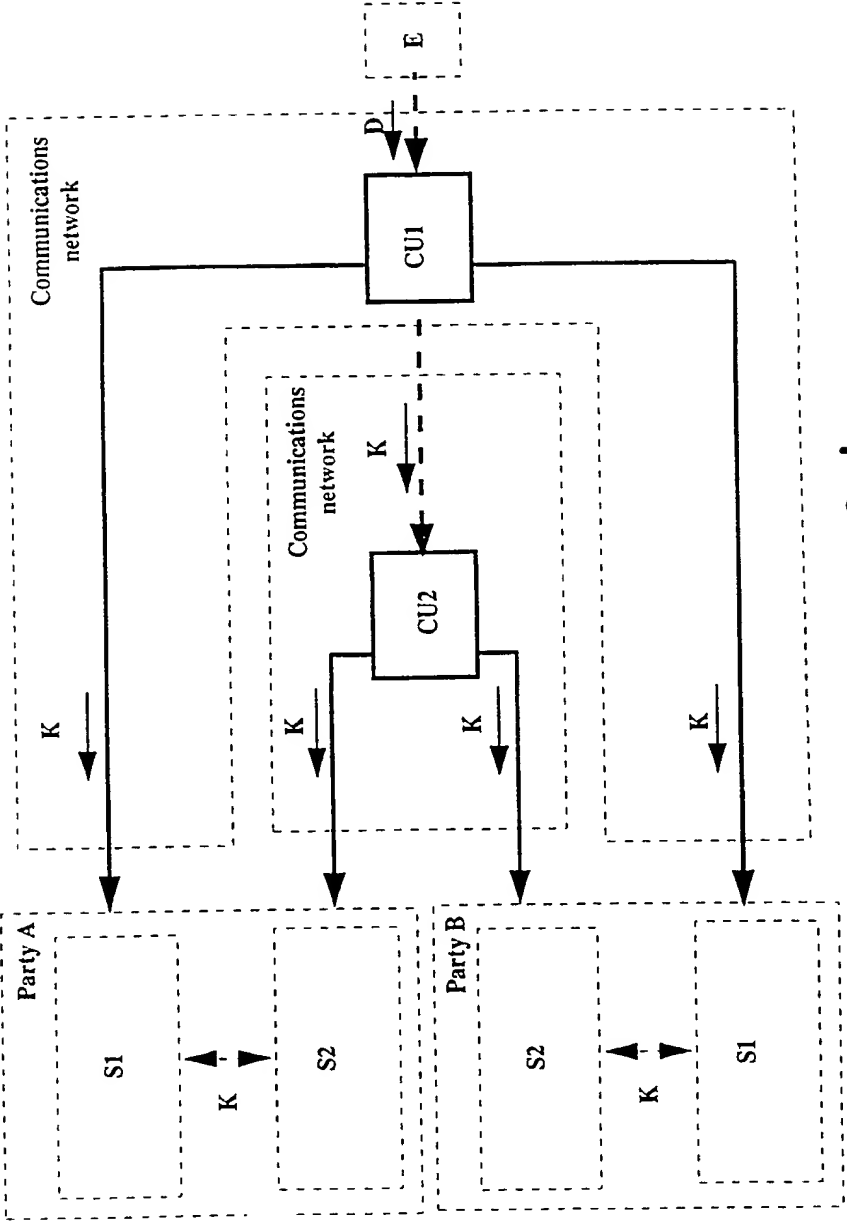
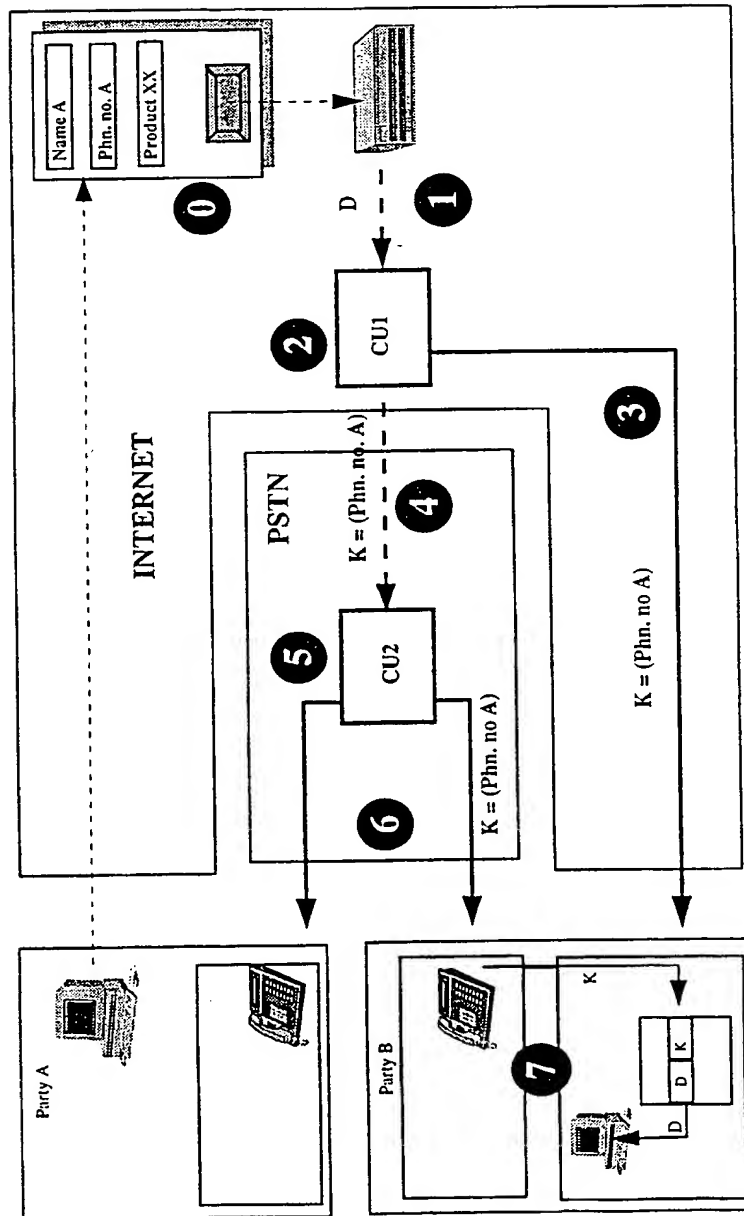


FIG. 1

The Components of the Invention

2/3

**FIG.2**

Example Application, Internet Enabled Call Centre

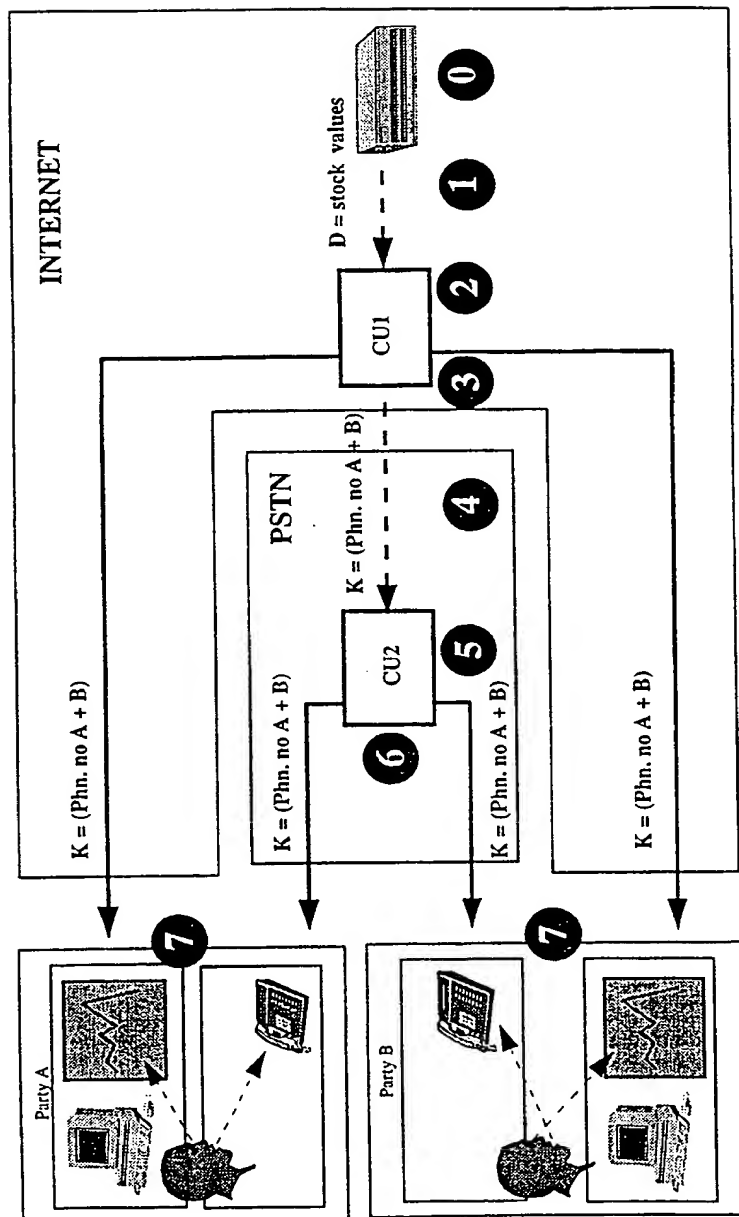


FIG. 3

Example Application, StockWatch

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 98/00226

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04M 7/00, H04M 3/42, H04M 11/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04M, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPIL, EDOC, JAPIO

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9708624 A1 (INTEL CORPORATION), 6 March 1997 (06.03.97), background information, summary of the invention, claims, fig 1 --	1-19
X	WO 9728635 A1 (GENESYS TELECOMMUNICATIONS LABORATORIES), 7 August 1997 (07.08.97), background and summary of the invention, claims, fig 1,3 --	1-19
X	EP 0658061 A2 (AT & T CORP.), 14 June 1995 (14.06.95), summary of the invention, claim 1, fig 1, abstract --	1-19

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

28 January 1999

Date of mailing of the international search report

01-02-1999

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 98/00226

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5533103 A (STEPHEN D. PEAHEY ET AL), 2 July 1996 (02.07.96), background & summary of the invention	1,4-9,15, 17-19
Y		2,3,10,11, 14,16
A		12,13
	--	
X	US 5428608 A (BRIAN D. FREEMAN ET AL), 27 June 1995 (27.06.95), summary of the invention	1,4-9,15, 17-19
Y		2,3,10,11, 14,16
A		12,13
	--	
Y	US 5648966 A (KENJI KONDO ET AL), 15 July 1997 (15.07.97), abstract	2,3,10,11, 14,15
	--	
P,X	EP 0824295 A2 (INTERNATIONAL BUSINESS MACHINES CORPORATION), 18 February 1998 (18.02.98), see whole document	1-19
	-- -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

21/12/98

International application No.

PCT/NO 98/00226

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
WO	9708624	A1	06/03/97	AU 6507696 A EP 0847556 A US 5734828 A	19/03/97 17/06/98 31/03/98
WO	9728635	A1	07/08/97	EP 0873642 A	28/10/98
EP	0658061	A2	14/06/95	AU 7918294 A BR 9404880 A CA 2118353 A CN 1115929 A CZ 9403037 A HU 71561 A HU 9403457 D JP 7203023 A NZ 270052 A PL 306176 A US 5563939 A	15/06/95 08/08/95 10/06/95 31/01/96 14/06/95 28/12/95 00/00/00 04/08/95 26/11/96 12/06/95 08/10/96
US	5533103	A	02/07/96	NONE	
US	5428608	A	27/06/95	NONE	
US	5648966	A	15/07/97	JP 8097818 A	12/04/96
EP	0824295	A2	18/02/98	GB 2316265 A GB 2316266 A GB 9616817 D GB 9623998 D JP 10164628 A	18/02/98 18/02/98 00/00/00 00/00/00 19/06/98

(PCT Article 36 and Rule 70)

REC'D 10 APR 2000

PCT

Applicant's or agent's file reference 128923/OS/KR/-	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NO98/00226	International filing date (day/month/year) 29.07.1998	Priority date (day/month/year) 17.11.1997
International Patent Classification (IPC) or national classification and IPC ₇ H 04 M 7/00, H 04 M 3/42, H 04 M 11/04		
Applicant Telefonaktiebolaget LM Ericsson et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 20.05.1999	Date of completion of this report 29.03.2000
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Jaana Raivio/cs Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/PCT/NO98/00226

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

☐ the international application as originally filed.

☒ the description, pages 1-14, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____,
pages _____, filed with the letter of _____.

☒ the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. 1-16, filed with the letter of 14.01.2000,
Nos. _____, filed with the letter of _____.

☒ the drawings, sheets/fig 1-3, as originally filed,
sheets/fig _____, filed with the demand
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO98/00226

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-16</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims		NO

2. Citations and explanations

The claimed invention relates to an arrangement for establishing communication channels between two or more parties connected to a communication network.

The objects of the invention is to provide a system for automatic establishment of related communication channels and for automatic correlation of the information sent on the established communication channels.

The objects are accomplished by a system comprising control means, which communicate with an external system comprising event related data so as to initiate the creation of one or more groups of communication channels on the basis of external events.

Documents cited in the International Search Report:

D1: WO 97 28635 A1
D2: US 5 648 966 A
D3: WO 97 08624 A1
D4: EP 0 658 061 A2
D5: US 5 533 103 A
D6: US 5 428 608 A

D1 discloses methods for coordinating telephone and data communication between different sites. Two communication channels (162, 164 and 124, 134) are established between two or more parties (102, 104, 108 and 110). The system comprises control means for automatic establishment (140) of related communication channels with support for automatic correlation of the information sent on the established communication channels.

D2 discloses a technique for sending alarm information to a network management station when an unusual event has occurred.

.../...

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO98/00226

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: V.

D3 relates to a system for accessing and delivering on-line/information services.

D4 discloses a signalling system for independent communication networks.

D5 relates to a calling system and method.

D6 discloses a call connection technique.

The invention as claimed in the amended claims filed with the letter of January 14, 2000 differs from the cited prior art. None of the cited prior art documents disclose an arrangement comprising a first control unit connected to an external system able to establish first communications channels between two or more parties, and a second control unit adapted to establish second communication channels between said two or more parties. Nor is it shown an arrangement where the first control unit comprises means for generating a correlation key when a certain event occurs, which key is being sent on the first communications channels, and which key is also being sent on the second communication channel via the second control unit. These differences are considered to involve an inventive step.

In conclusion, with respect to D1-D6, the invention as claimed in amended claims 1-16 is novel and is considered to involve an inventive step. The invention as claimed in amended claims 1-16 is considered to have industrial applicability.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO98/00226

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
EP 0824295	18/02/1998	24/07/1997	09/08/1996 19/11/1996

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
_____	_____	_____

P a t e n t c l a i m s

1. Arrangement in one or more communication networks,
wherein communication channels are established between two
5 or more parties connected to said communication
network(s), said arrangement comprising communication
services offering access to communication channels to
interconnected parties,
c h a r a c t e r i z e d i n that said arrangement
10 further comprises control means for automatic
establishment of related communication channels with
support for automatic correlation of the information sent
on said established communication channels.
- 15 2. Arrangement as claimed in claim 1,
c h a r a c t e r i z e d i n that said control means
(CU1) communicate with an external system (E) which in
turn comprises event related data, which data can either
be called upon by the control means (CU1) or be
20 transferred thereto when certain events occur, so as to
initiate the creation of one or more groups of
communication channels, substantially on the basis of
external events.
- 25 3. Arrangement as claimed in claim 1 or 2,
c h a r a c t e r i z e d i n that said events may
comprise a date, stock exchange thresholds, temperature
measurements, registration forms with parameters for
transfer of information, or similar events with
30 appropriate monitoring thereof.
4. Arrangement as claimed in any of the claims 1-3,
c h a r a c t e r i z e d i n that examples of
services may comprise: voice communication services, etc.
35 and that examples of communication networks are: Public
Switched Telephone Network (PSTN), Public Land Mobile

Network (PLMN), Integrated Services Digital Network (ISDN) as well as Internet, etc.

5 5. Arrangement as claimed in any of the preceding
claims,
c h a r a c t e r i z e d i n that said control mean
comprises two logical interacting control units (CU1, CU2
located within one or more of said communication
network(s).

10

6. Arrangement as claimed in any of the preceding
claims,
c h a r a c t e r i z e d i n that said control unit
(CU1, CU2) are interconnected by a communication path.

15

7. Arrangement as claimed in any of the preceding
claims,
c h a r a c t e r i z e d i n that one of said
control units (CU1) is connected to said external system
20 (E) preferably by a communication path (D) through which
said one control unit (CU1) receives control information
to be used by said one control unit (CU1).

8. Arrangement as claimed in claim 7,
25 c h a r a c t e r i z e d i n that said control
information (D) which is transferred from the external
system (E) to said one control unit (CU1) can also be use
by said second control unit (CU2) for establishing
sessions.

30

9. Arrangement as claimed in claim 7 or 8,
c h a r a c t e r i z e d i n that the information
(D) transferred from said external system (E) to said two
control units (CU1, CU2) may be transferred respectively
35 therefrom to one or more parties involved in the channels
to be established.

10. Arrangement as claimed in any of the preceding claims,

characterized in that one of said control units (CU1) is adapted to either initiate a transfer of input (D) from said external system (E) and is also adapted to receive an input (D) from said external system (E) upon initiation from the latter, especially when certain events occur.

10 11. Arrangement as claimed in claim 10,

characterized in that said one control unit (CU1) comprises logic means for monitoring events of interest, said logic means being adapted for triggering a transfer of input (D) from said external system (E) when any parameter associated with any event of interest so demands.

12. Arrangement as claimed in claim 11,

characterized in that said one control unit (CU1) comprises a key (K) generating means, the key (K) thereof being adapted to facilitate automatic correlation of information sent on said communication channels (S1 and S2), specifically at the terminal equipment of the parties involved.

25

13. Arrangement as claimed in claim 12,

characterized in that said correlation key (K) is generated based upon the information contained in the data (D) transferred from said external system (E); for example based on:

30

- a) the telephone number of one of the parties (A),
- b) further information contained in said control unit (CU1),
- c) or both.

35

14. Arrangement as claimed in any of the preceding claim

characterized in that when a key (K) has been generated in said control means (CU1), then said control means (CU1) will establish one or more communication channels (S1), more particularly based upon
5 information contained as control information in said data (D) received from said external system (E), possibly based upon information contained in said one control unit (CU1)

15. Arrangement as claimed in any of the preceding
10 claims,

characterized in that said control means (CU1) is adapted to act as one of the parties in a session (S1), or as the placing party, for example with stored voice messages in a telephone call/session.

15

16. Arrangement as claimed in any of the preceding claims,

characterized in that said control means (CU1) is adapted to transfer the relevant key (K) on to
20 established communication channels (S1), and if said control means (CU1) acts as a party in a session then further information, especially user information obtained from said external system (E) or contained in the control means (CU1) itself may be distributed therefrom on to one
25 or more communication channels (S1).

17. Arrangement as claimed in any of the preceding claims,

characterized in that said control means (CU1) is adapted to transfer the relevant key (K) as well
30 as additional control information to any further control means (CU2), for thereby allowing said further control means (CU2) to establish one or more further communication channels (S2) based upon said key (K) or based upon
35 information contained in said further control means (CU2)

18. Arrangement as claimed in claim 17,

c h a r a c t e r i z e d i n that said further control means (CU2) is adapted to transfer the relevant key (K) on to established communication channels (S2).

- 5 19. Arrangement as claimed in any of the preceding claims,
c h a r a c t e r i z e d i n that if one party is involved in two or more of the established sessions, then the key (K) received by said party may be used to
- 10 correlate said particular session or sessions, provided said party has received said key (K) on all communication channels belonging to the associated group of communication channels or group of sessions.